Film-Tech

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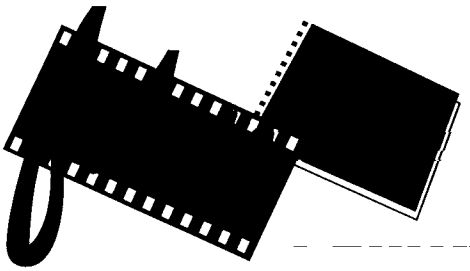
Film NOTES

FOR REEL PEOPLE

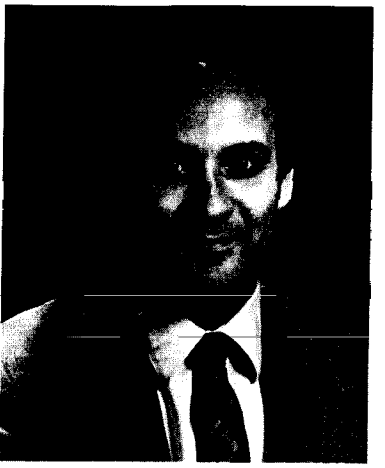
News and Information for the Theatrical Motion Picture Industry from Eastman Kodak Company

June 1996

ZORADI INTERVIEW · THEATRE AUTOMATION SYSTEMS



Pytlak's Practical Projection Pointers



JOHN PYTLAK
Senior Technical Associate
Motion Picture Systems Development Group

JUNE 1996
H-50-40

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If you have any questions or comments, please write to:

Editor
Film Notes for Reel People
6700 Santa Monica Blvd.
Hollywood, CA 90038

Cover Art Courtesy of
Walt Disney Pictures

Notre Dame's reclusive bell ringer, Quasimodo (center), joins the "Feast of Fools" celebration and is crowned king by Master of Ceremonies Clopin (left) as the beautiful Gypsy woman, Esmeralda, Captain of the Guards, Phoebus and the repressive Minister of Justice, Judge Frollo (far right) look on in Walt Disney Pictures' delightful new musical animated adventure

"The Hunchback of Notre Dame."

Q Our service technician uses a loop of test film to check the size and steadiness of our screen images. It doesn't appear to be highly technical and I would like to perform checks on a more regular basis. What is this film and how may I obtain it?

A The film is probably the SMPTE Projector Alignment and Image Quality Test Film, sometimes known as RP 40. It is one of the most useful test films available for checking and adjusting the projection system.

The film has precisely positioned lines showing the dimensions and placement of the projected image, including the standard image areas for anamorphic (2.4:1 aspect ratio) and flat (1.85:1, 1.66:1, 1.37:1 aspect ratio) projection. The film is essential to maintaining aperture size, projector position, and screen masking. It is also useful in aligning the anamorphic lens so there is no distortion in the projected image.

The checkerboard pattern has several functions. It provides an image that absorbs radiant energy at a rate similar to a real picture, so the thermal behavior (flutter) of the test film is like a normal print. Any "breathing" or flatness of focus is seen as a fuzziness in the tiny squares.

Secondly, since each square represents .5 percent of image width, jump and weave (image unsteadiness) may be quantified by observing the movement of the squares onscreen. For example, if the squares "bounce" about 1/4 of their height, the vertical unsteadiness (jump) is 1/8 percent of the image width. If the squares move sideways 1/2 square, the weave is 1/4 percent, which is quite objectionable.

Thirdly, chromatic aberration of the lens is easily seen as color fringing around the black squares. Although no lens is perfectly free of chromatic aberration, severe color fringing may indicate a problem or the need for a new lens.

Sharpness can easily be quantified by the precision resolution targets included on the film. These consist of parallel lines with varied thicknesses calibrated in lines per millimeter. Resolution is measured by observing the line pairs with the finest detail that can still be discerned. A well-adjusted projector using

Continued on Page 6

Interview

Mark Zoradi, Internationally Speaking

Mark Zoradi began his career with Walt Disney Studios in 1980 after receiving his MBA from UCLA. He proceeded through the ranks in both domestic television and theatrical distribution prior to taking the reins of Buena Vista International in 1992. The company has prospered as a dominant player in the international marketplace since its inception.

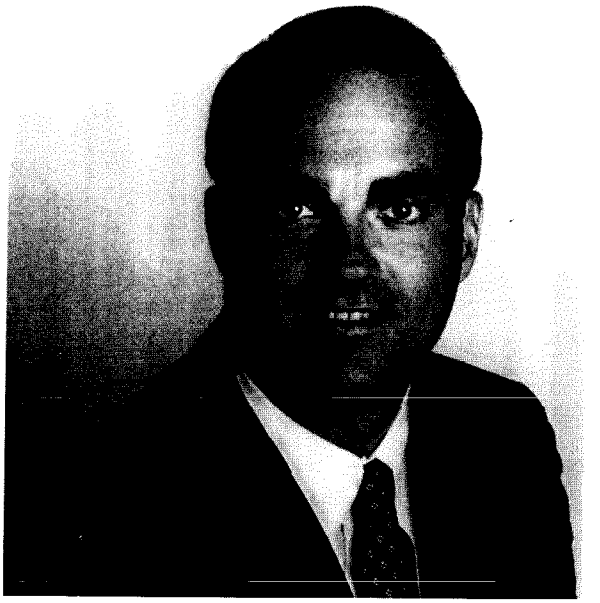
As Zoradi and his colleagues prepare yet another stellar line up for summer release, he comments on worldwide distribution:

Q: How are worldwide markets viewed today versus 5 to 10 years ago?

A: The international marketplace is viewed more and more as one of the most important markets for filmed entertainment product; in some instances it even exceeds the value of the domestic marketplace. This is largely due to increased and better construction of cinemas throughout the world at a rate comparable to that experienced during the U.S. multiplexing boom of 1970's - early 1980's This increase in screen density and quality should be a key factor in the continued growth of international into the next century.

Q: With so many films being released by Disney this summer, what are the challenges you face?

A: For us, it is finding the right release window. We do have a spectacular line-up with *The Rock, The Hunchback of Notre Dame, Phenomenon, Spy Hard,* and *Jack.* Determining a release window is done on an individual country basis.



MARK ZORADI-President
Buena Vista International

For instance, we don't release in "Europe." There is a big difference between releasing in the United Kingdom and releasing the same film in Italy, particularly in terms of movie-going habits. We look at each country and find what we believe to be the proper release time, trying to find a window where we have at least a couple of weeks breathing room for that picture. A good example is our proposed release for *Hunchback of Notre Dame.* We will play the United Kingdom in July, but wait until November for Italy. It's hot in Italy in July and many of the theatres are closed because they are not air conditioned and the people are on holiday. With a November release in Italy, we can play the Christmas holiday, clearly a much better playtime for family movies than June or July.

Q: Will the Olympics impact worldwide boxoffice this summer?

A: We try to avoid positioning our films in direct

competition with the heaviest viewing periods. However, historically, we have found that we can generally release concurrently with the Olympics with minimal downside. Sports programming need not always be considered a serious rival, depending upon the quality of the movie and the target audience. A good example was our release of *The Lion King* in Latin America at the same time as World Cup Soccer.

We are doing exciting events in France and throughout Europe. We have a Hunchback of Notre Dame train tour, which is going to sixty-five cities throughout Europe.

There is nothing bigger than World Cup Soccer in Latin America, but the film went on to become that region's biggest movie of all time. Rather than practicing avoidance, there are several considerations: the local appeal, the local competition, and the holiday play time.

Q: When you're releasing your product against local films internationally, how difficult is it to find screens?

A: It's always a battle, but it depends on the country. Typically, countries outside the U.S. are not as well screened as the U.S., so it can be more challenging because you have fewer screens for a given population base. The line-up of product that we have to offer and, for the last two years, that we have been either number one or two in most European countries, we are able to get the screens we need. We have a huge supply of movies in the pipeline, and that's important to exhibitors. We have not only Disney, but also Touchstone, Hollywood Pictures, local acquisitions, and also distribute a number of Miramax films.

Q: Are there any local films you distribute that you plan to bring to the U.S.?

A: We always look to do that. For example, Miramax picked up the worldwide rights to *Il Postino,* except in Italy. In the U.S., Miramax released it themselves, and we released it in all international territories except Italy, its country of origin. It was a joint effort. It has been an international hit. When we acquire movies, we usually pick up the local territory of origin. But if we believe it to have U.S. potential, then many times Miramax is looking at it.

Q: In which European territories do you expect to see megaplexes, such as Kinepolis?

A: As you mentioned megaplexes began in Brussels and it is reasonable to expect to see expansion to Germany, England and other parts of Europe. In Italy and Holland however, which are under-screened, I would expect to see multiplexes first–ten to fourteen screens–before they jump into large-scale megaplexing. Other parts of the world, such as the Asian territories of Singapore, Hong Kong, and Japan, are enjoying growth in traditionally-sized multiplexes.

Q: Do you envision your marketing strategies changing drastically to accommodate international releases?

A: I would have to say no, because you said "changing drastically." I would rather characterize our response as adaptive and evolving. We are increasing our number of prints as we have more screens available. We're seeing slightly increased costs of distribution as well, but our revenue is improving to such a degree that it justifies the print and distribution costs.

Q: What strategies have been most effective in those markets in terms of print versus television?

A: As more and more of Western Europe has private TV, this medium has become increasingly important. Additionally the outdoor arena is also an important advertising medium. It depends on the market. In France, outdoor advertising is the main focus. Besides TV and outdoor media, publicity is important, especially when we are able to convince major talent to go on the road to promote their films. Celebrities are understanding that recognition outside the U.S. is vital to their careers.

Q: Are you planning anything special in France for the opening of *Hunchback?*

A: We are doing exciting events in France and throughout Europe. We have a *Hunchback of Notre Dame* train tour, which is going to sixty-five cities throughout Europe. It is comprised of four cars of interactive and visual experiences. Additionally, a large-scale "Festival of Fools," is set up in the train station, like a circus coming into town. The train tour is a huge success in England and will also travel throughout France. We will also have major premieres in November throughout Europe.

Q: Are there any other spectacular premieres planned for your summer films?

A: We took *The Rock* to the Cannes Film Festival for it's first European screenings and received tremendous response. We did it early so we could get the word of mouth in progress. We will also consider taking a couple of our pictures to the Venice Film Festival in September. Several months ago, we held a major press and promotion conference to give an early look at *101 Dalmatians*, live action, in the U.K. This was done at the Shepperton Studios, where the film is in production.

Q: Are you doing anything interactive on the worldwide web, etc.?

A: There are web sites for most of our major pictures. *Hunchback of Notre Dame,* of course. *The Rock* and *101 Dalmatians* will have sites as well. We do sites in the vernacular of many countries.

Q: Are all your films dubbed or subtitled? What determines this?

A: It is different, especially animated versus live-action. When a picture is clearly targeted at the family audience, we dub it very wide. On an animated feature, we will dub as wide as thirty different languages. You almost cannot name a language we don't dub in--everything from Icelandic to Hebrew. In live-action, when we're geared toward a more adult audience, films are dubbed in the four major languages of the world and subtitled in all other countries.

Q: Are you using many of the U.S. prints in your distribution, and how are they being handled?

A: Absolutely, if the U.S. release and the timing works, often we go day and date. If the timing is different, we will take used prints from the U.S. and use them in the U.K., South Africa, Australia, New Zealand, and Singapore. As far as how they are handled, Technicolor has done a great job in giving us high level quality control. We are probably the most particular about not using a print if it is not a quality print.

We get a second life from prints wherever possible. Proper film handling and projection at the theatre is critical to films having second lives.

Q: Are you seeing the number of useable prints from the U.S. increasing or decreasing?

A: It depends on the film. If the movie has a long playdate in the U.S., we may not see as many useable prints. Films that have shorter playdates may come back in better shape. We get a second life from prints wherever possible. Proper film handling and projection at the theatre is critical to films having second lives.

Q: What determines day and date internationally?

A: There is no formula, but timing--how early the producer delivers the finished product to be printed and distributed--is pivotal. If the movie is delivered in the U.S. just prior to opening date, it makes it very difficult to get all the advertising adapted, dubbed, subtitled, and so on. If it is a family film, we will wait for the right holiday playtime for that particular country.

Q: Do you have an average number of prints created for the international market?

A: No. We don't think of "international" as one marketplace, but fifty individual markets. There are big differences between Spain and Portugal, even though they are right next to one another, etc. They have unique holiday season, and sometimes schools are out at different times. You can't say on a break that there will be 4,000 prints, but if you added them up for the total release, they would equal or exceed that number.

Q: Are you seeing larger boxoffice and longer playing times for each film in the international market?

A: In boxoffice, yes, the international market is experiencing steady growth. Since we tend to be going wider, I wouldn't say that the playing time is any longer.

Q: Piracy in the worldwide market appears to be an ongoing problem. Is anything happening that is stemming this tide?

A: Within our industry trade organization, it is the highest priority. In the U.S. the MPAA and its international arm have become increasingly aggressive and effective. Additionally, Disney goes to extraordinary lengths to protect its product internally. Of course, it runs rampant in certain parts of the world, but our efficiency is definitely on the upswing.

Q: International artwork and ad campaigns often differ from those used in the U.S. What is the advantage of undertaking such an expensive enterprise as entirely separate campaign "looks?"

A: The world has many different cultures. We cannot approach movie advertising as if we are all one homogenous world. When we have a universal advertising message, such as *The Rock*, we can standardize. On something like *Pocahontas*, however, the American campaign of "An American legend comes to life" simply would not be appropriate internationally. We positioned it internationally, for instance, by promoting the romance: "Two different worlds, one true love."

Q: What differentiates Buena Vista International in the international market?

A: BVI is differentiated by our great, enthusiastic, energetic people committed to the film business. Nearly all local nationals , they have been given the responsibility and authority to act locally. Our local offices have the ability to react and move quickly in their individual country's competitive environments.

Pytlak's Practical Projection Pointers
Continued From Page 3

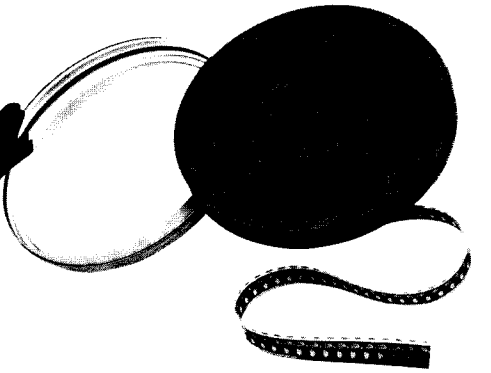
modern state-of-the-art lenses can achieve in excess of 80 lines per millimeter resolution at the center of the screen, with only slightly less resolution at the edges. Anything less than 40 lines per millimeter means the audience is not seeing a sharp image.

The SMPTE test films are available in several versions. The 35-IQ film consists of 100 feet of a magenta target printed on color print film and 100 feet of the same target on black and white. The color section is useful as a check of performance with color film, which absorbs less radiant energy than black and white. The difference in focus between the sections is especially apparent with large lamps, having high radiant energy. The more critical black and white is available separately as 35-PA.

Test films should always be stored heads-out and emulsion-in (per SMPTE RP 39). Use a large-hub "house reel" to minimize core set. Replace the test film when wear or shrinkage causes it to become unsteady or have focus flutter.

Many theatre equipment dealers stock test film. They can also be ordered directly from SMPTE, 595 West Hartsdale Avenue, White Plains, NY 10607. Phone (914) 761-1100.

Technology



Movie Theatre Automation Systems

By Pat Moore, Strong International

An Automation "Primer" - In Brief

Automation systems are the electronic "brains" that support today's modern single-machine film projection booth. Generally using platters as the preferred method of film transport and handling, these systems are very much the industry standard in the U.S. and increasingly in the rest of the world as well. Modern cinemas use automation systems to control other automatic devices in the booth, such as projectors with lens turrets, light dimming systems and others.

A basic definition might be this: A movie theatre automation system is the device that controls the basic functions of an automated projection system and its components, minimizing required operator intervention and attention. Automation allows the economical and reliable operation of multiple screen theatres by fewer operators. Since an entire presentation is made on a single projector, the automation system oversees the general presentation of the film without the otherwise necessary human supervision.

What Does The Automation System Actually Do?

Depending on its designed capabilities, the system performs many of the tasks required during a film presentation that must otherwise be completed by an operator or projectionist. Essentially, automation is an automatic sequencing device capable of initiating a particular group or series of outputs given some particular input.

The most basic function of any automation is simply monitoring the projection system and making sure all is well. The most obvious problem during a presentation is a film break. With a well-maintained projection system and a film print that's carefully made-up, film breaks should be very rare occurrences indeed. They still do happen, however, and a major function of the automation is to supervise the presentation for such an occurrence and to eliminate the need for an operator to oversee such tedious duty.

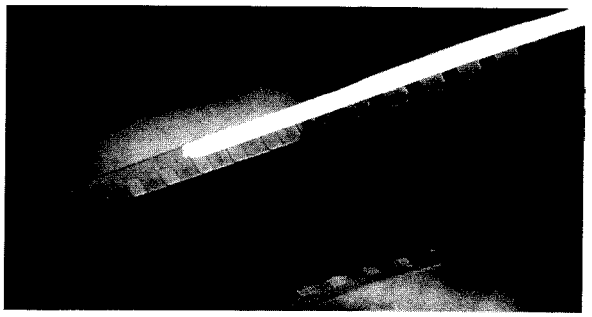
Basic systems perform fewer combinations of events, and normally perform them only in certain limited combinations. A standard "show start" sequence, for instance, occurs when the automation's START button is pressed. The projector and lamphouse turn on, the house lights dim and the curtain opens. Then, at a pre-set time of five to seven seconds, the changeover opens and a desired film sound format is initiated. Voila! The show is onscreen and the operator need only check focus, framing and sound. More advanced systems can perform greater combinations of events and are more versatile in the programming of those show sequences.

Other inputs to the system are usually from film cues or the failsafe assembly. Depending on the presentation, a cue might initiate a change in film sound format from mono to stereo, a lens change from flat to cinemascope, or both. Cues are also used to initiate a programmed "show end" sequence of events at the end of the film, as well as other "mid-show" events.

The film "failsafe/cue detector", commonly referred to simply as the "failsafe", is an integral part of the automation system. There are several designs of a failsafe/cue detector used in the

Optical Failsafe Proximity Cue Detector

industry. The device's functions are twofold. It's located in the film path ahead of the projector and soundhead, since most film breaks occur before that point. The failsafe monitors presence of the film in the system. If the failsafe tells the automation system there's no film present when it should be there, the system is in "fault" and automation will then halt the presentation or not allow it to start. Other types of failsafe devices might also be used in the industry with some



Cue Tape

systems.

The cue detection device is usually an integral part of the failsafe assembly. A "film cue" is placed on the film itself. When sensed by the detection device, it tells the automation to perform some prescribed series of events, such as a sound or lens change, the "show end" sequence, etc. The cue's placement on the film determines when these events will occur.

A cue is a small piece of single-sided foil tape, about one-eighth to one-quarter of an inch wide and between two and five inches long. The length is generally determined by the type and sensitivity of the detector being used. Current prox detectors are extremely efficient and reliable, though other types of these devices are still encountered.

There are two common problems associated with automation systems. The first concerns missed film cues. Unless virtually all cues are missed, the problem usually comes down to the quality of the cues themselves or a dirty cue detector. Contact-type cue detectors are particularly susceptible to the occasional missed cue. Check the film contact surface of the bearings or rollers for cleanliness; clean as required with a cotton swab and alcohol. Inspect the cue tape for cleanliness and quality of the foil surface; it should appear bright and clean. Older cues, those older than a week's worth of a full show schedule, should be replaced. Proximity type detectors are generally less sensitive to dirt and aging cue tape, but that does not mean less attention should be paid to this potential problem.

The second common complaint is, "The automation didn't do what it's supposed to do". Besides the "missed cue" problem, this often

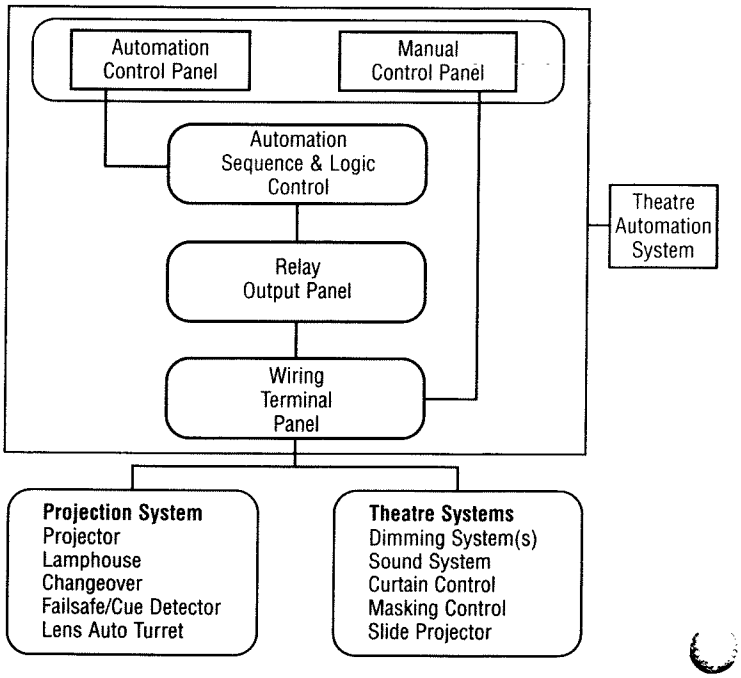
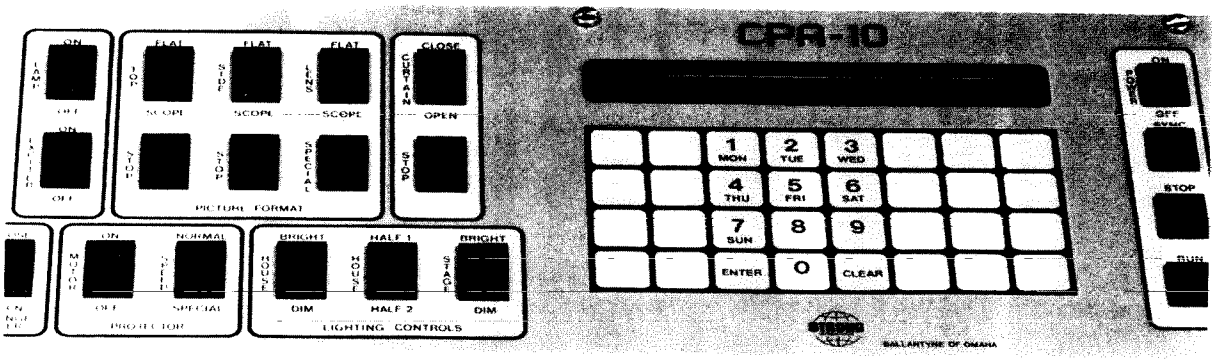


Figure 1



Typical Computer Automation - Manual Controls On Left, Automation Controls On Right

comes down to operator errors in programming the system or improper placement of cues on the film. If the twelve o'clock show ran fine and the two o'clock show did not, the first thing you should ask is: "What changed?" If nothing did, look at missed cues as the lead candidate of the problem. You might also find that the two shows are not the same and that different automation programming is required to give the desired presentation.

What Does The Automation Actually Control?

The automation system consists of the components shown in Figure 1, a block diagram of a typical system and what it controls. The actual controller portion is the heart and brain of the system, what actually controls the events the system will automatically perform. Older designs use a cam timer as the sequencing device. These systems were generally limited in the number and types of functions they could perform. Modern systems use solid-state timers and devices to control the various functions of the systems, offering greater versatility from an inexpensive and reliable system. These increased capabilities became a necessity as multiplex cinemas demanded more and more of the systems that operated the theatres. Newer and more modern versions include electronic "matrix" designs and even fully programmable computerized automation systems.

The controlling portion of the automation generally operates on low voltage (12-24V) provided by its own power supply. This allows the use of smaller components for the control and timing circuits of the system. These devices do not directly control the other equipment in the booth, such as the projector drive motor, xenon lamphouse and so on. Instead, the automation controls these external systems via relays. A relay is basically an electrically operated switch that allows a low voltage device, such as the automation, to control a high voltage device, such as a projector motor. Relays are capable of handling the higher voltage requirements of these external systems and isolate the automation from these systems. Relays used vary on their function, the power they need to handle and the number of circuits a particular relay must control.

The outputs of these relays go to the wiring terminal panel, where the automation is connected to the other systems in the booth that it controls and with which it interfaces.

Troubleshooting An Automation System

Troubleshooting of any kind starts with a logical, step-by-step approach:

❶ What, if anything, changed from the last time the show ran properly? Whatever the change was might be the cause of the current problem.

❷ Determine the problem. What specific function or event is not occurring? Is it occurring incorrectly or not at all?

❸ Check the inputs that make that desired function occur. What specific input or inputs are required for the desired event to occur?

❹ Start from the beginning to accurately determine the source of the problem.

For instance, don't assume the projector

motor is bad simply because it doesn't run. Start from the beginning. Is the circuit breaker on? Is there an additional fuse that might be blown? Is power actually being applied to the motor from the switches that activate it?

A sample troubleshooting procedure might go like this: The automation starts a presentation in a normal manner (projector runs, changeover opens, house lights dim and so on), except the Xenon lamphouse doesn't light up. First, determine the problem. Is it the Xenon or automation system that's the problem? Try turning on the lamp with its manual switch. If it lights, the problem is within the automation or in the wiring between the two systems. If it still does not light, the problem is within the Xenon system or its associated components.

Another troubleshooting hint: Don't try to do more than you are capable of doing, especially without guidance or experience. Components in a projection system are electrical and mechanical in nature and can pose hazards if handled incorrectly. Go through the basic items that you're familiar with and don't be afraid to call for help if you reach the limit of your knowledge and experience. Chances are that the problem you've got is pretty simple to correct. Don't create more problems than you've already got or make them worse.

Technical help should be only a phone call away. However, you should be prepared to provide worthwhile information when you make that call. There's nothing worse for the service tech than to hear those famous words, "Yeah, my projector's not working."

There's little regular maintenance required for automation systems, and most of what is needed will be keeping the failsafe/cue detector clean. Dirt and dust should occasionally be blown off the chassis of the system. Make sure all relays are securely plugged into their sockets. An occasional check for tight wiring connections on all components is always a good idea.

So, those are the basics of the automated theatre and some basic troubleshooting tips. More specific guidelines follow. If you have a problem, take a deep breath. Then identify the problem and follow it to its source in a logical manner. And never be afraid to ask for guidance or advice!

Remember also that there are plenty of things the automation does not do. That's why a conscientious operator is still so important in the cinema. The system can't focus or frame the picture. It can't clean the film trap or the port glass. It doesn't check oil or make up the film. Automation is simply a tool for the qualified film-handler to use in today's theatres to provide the most important thing we can provide our customers on the big screen: a quality presentation.

Next Issue: *Troubleshooting Chart and Guidelines*

Wexler Gets His Star

Haskell Wexler, ASC, has become only the third cinematographer to have a star dedicated in his name on the Hollywood Walk of Fame. Wexler is a native of Chicago who started his career as a documentary-industrial filmmaker then segued to shooting independent features and socially relevant documentaries. His first big Hollywood feature was *Who's Afraid of Virginia Woolf?*. He earned an Oscar for that effort and another for *Bound for Glory*. He has other nominations for *Blaze, Matewan* and *One Flew Over The Cuckoo's Nest*. Many people consider his 1968 film *Medium Cool* to be his most innovative work. Wexler is currently shooting narratives, documentaries and commercials. he just finished *Rich Man's Wife* and completed *Mulholland Falls* earlier this year.

Regarding his work and achievement Wexler noted, "Because we have the ability to speak with such a strong voice, we cannot separate the content of the movies from the process of recording images on film. I believe we need to accept this responsibility knowing we influence the way people think and feel. To be professional, to be artful, to be a better human being, is a lifelong struggle. Ideally, the work that lasts after the person, will cause some to say, 'that artist made a difference". Wexler will also, be honored with the CamerImage '96 Lifetime achievement Award at the International Festival of the Art of Cinematography in Torun, Poland in early December.

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Eastman Kodak Company
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